



FOOD PROCESSING IN VENTURA COUNTY EXECUTIVE SUMMARY

December 2015

The food processing report was completed for EDC-VC by Applied Development Economics (adeusa.com) and The Hatamiya Group (hatamiyagroup.com). EDC-VC appreciates the California Stewardship Network's partnership and support, and the Morgan Family Foundation's (morganfamilyfoundation.org) grant contribution in support of this project.

INTRODUCTION

Agriculture has long been a characteristic component of the Ventura County economy. However, as with many economic sectors, agriculture must evolve to meet constantly changing market challenges. The present report addresses the need and opportunity to increase the level of value added processing in the county to better support the farming community and a comprehensive food systems strategy.

Our interest is to assure the sustainability of our region's agriculture sector, simultaneously diversifying job opportunity, improving regional food security and preserving regional quality of life as defined by a regional balance of the built and open space environments.

A shift toward a broadly embraced local food systems strategy, to which this analysis of food processing opportunities contributes, will result in the following benefits:



- Secures long-term competitiveness for growers, as the global supply chain of agriculture products diminishes our regional sustainability and profitability in commodity production.
- Creates new job opportunities for the region's labor force—particularly for the county's 26,000 farm workers whose field jobs are increasingly at risk to automation—by diversifying the agriculture-based economy.
- Improves food security for the region, particularly for low-income residents, by connecting the local agricultural bounty to local distributors and consumers.
- Preserves regional quality of life through preservation of agriculture, contributing to vital green belts separating the region's distinct communities by well-defined urban boundaries.

As noted in the Comprehensive Economic Development Strategic Plan (CEDSS) for Ventura County (found at edc-vc.com), the county has a relatively low level of food processing activity, despite its extensive high-value agricultural output. However, in interviews with farmers and other stakeholders in the agricultural sector, a number of specific interests in food products or processing opportunities have emerged:

- Food aggregation hub
- Avocado/citrus packing
- Cut fruit/veggies/sandwiches & wraps
- Salsa/guacamole
- Berry/fruit preserves
- Fruit pastries

The analysis evaluates several types of facilities for these types of processing operations, ranging in size from 6,000 sq. ft. of building space to 24,000 sq. ft. These plants would create onsite employment ranging from 25 jobs at the low end to 115 jobs for the larger facilities. However, the economic multiplier effects would increase total job creation by a factor of 2.74 for certain facilities like fruit puree production, so a facility with 115 positions onsite would generate 200 additional jobs offsite in supplier, retail and service businesses throughout the county.

KEY FINDINGS

Farmers' ability to capture the added economic benefit from value added food processing is critical to their long-term economic sustainability.

- Compared to state averages, food processing in Ventura County is two-thirds lower in employment concentration and less than 15% of the concentration of farm production in the county. Compared to food processing in the San Joaquin Valley, food processing in Ventura County could be as much as five times higher than current levels, given the volume of agricultural production in the county. However, Ventura County offers a different crop mix than the Central Valley, much more oriented to fresh food markets. Therefore, in this analysis we address opportunities specifically related to major crops in Ventura County.
- Food processing is currently estimated to support about 1,480 jobs, not counting related wholesale and transportation activities. In addition to the specific processing facilities outlined here, this analysis evaluates a range of expansion from 2,680 new jobs (to meet the state average) to adding 5,450 new jobs (similar to the San Joaquin Valley). While this latter analysis may exceed the market opportunity, it provides a context for the relatively small scale of development that would be needed to dramatically increase the economic value of agriculture in the county.
- If the new food processing activity were housed in new buildings, it would require 223 to 453 acres of industrial development. If this were to occur on farmlands, it would equate to only 0.2 to 0.4% of the acres farmed in 2014.
- Ventura County has a limited supply of currently available urban industrial land, estimated at a total of 2,110 acres. Given the scale of most food processing operations, requiring between 5 and 15 acres, approximately only 495 of the available industrial acreage aligns with the needs of food processing. Creating the 223 to 453 acres of new food processing activity would use between 45 and 91% of the suitable industrial land. This would effectively cut in half, or nearly eliminate, opportunity for other industrial activity on that property.
- Farmland produces an average crop value of \$19,330 per acre, while food processing generates \$835,000 in value added per acre. In comparison, non-ag industrial development generates \$7.2 million in value added per acre in Ventura County.
- Food processing pays higher wages than agricultural production, \$44,294 per year compared to \$30,206 annually for farming, on average.
- Farmers' ability to capture the added economic benefit from value added food processing is critical to their long-term economic sustainability. The trade-off in farm production lost versus processing value added gained, particularly for the relatively small proportion of farmland that would be required, would actually result in a net gain for the farm economy of the county. In contrast, using urban industrial land for food processing would reduce economic output in the county if it results in lower levels of other industrial growth.
- In addition, urban industrial land is more expensive than farmland, particularly if the farmer has owned the land for some time. This cost advantage is necessary in some cases to achieve feasibility of new food processing facilities.

RECOMMENDATIONS

Based on these considerations, we recommend the county consider the following policies as part of its overall farmland land use policy:

- Create a more extensive list of allowable operations, that is, allowing cooking processes, farm education and research, and ancillary office space, and set a maximum based on percent of total facility space. Relevant SOAR vote requirements for land use changes would remain in effect.
- Concentrate new processing on more marginal farm land, which may include consideration of factors such as soil type, proximity to transportation infrastructure, availability of water for agricultural production, proximity to urban areas, size of parcel and suitability for high-value crop production. County zoning already acknowledges the importance of this type of evaluation and a process exists to review requests for agricultural land use changes with the Agricultural Policy Advisory Committee.
- Require onsite wastewater treatment. The technological solutions to this issue exist and have been proven in Ventura County. (Note: this may result in the need to concentrate processing on larger parcels, possibly by concentrating several processing operations on one site.)

AGRICULTURE INDUSTRY OVERVIEW

Food processing in Ventura County is two-thirds lower in employment concentration than the California average, despite our extraordinary value and diversity of crops grown.

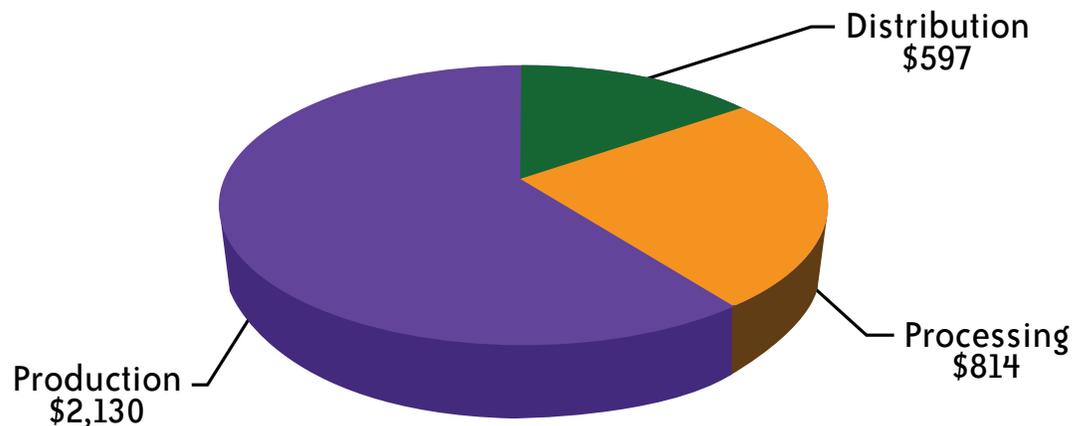
Agriculture in Ventura County constitutes an industry cluster. Agricultural production is the largest component of the cluster, but, as shown in Figure 1, food processing and transportation and distribution also add value to the county economy.

As of 2014, the agricultural industry cluster is estimated to generate about \$3.5 billion in economic output in Ventura County, which is about 5% of the county total. In terms of employment, the agricultural cluster provides about 12% of jobs in Ventura County.

However, compared to state averages, the food processing sector is under-represented in relation to the volume of farm production in the county. This study is focused on opportunities to expand food processing in the county. As a first step, it is important to review recent trends in crop production, which would provide the raw material for additional processing activities. For more complete information, see the full report at edc-vc.com.

FIGURE 1 — AGRICULTURAL CLUSTER COMPONENTS

Agricultural Cluster Total = \$3.54 Billion



Figures in millions.

CROP PRODUCTION

Farmers in Ventura County generated \$2,137,033,000 in economic value in 2014, the bulk of which — at \$2,125,149,000—was attributable to farmers growing various crops and engaged in horticultural specialties. One year before, these farmers generated \$2,102,353,724 in economic value, meaning the amount of economic value increased by \$22,795,276 between 2013 and 2014.

Of the \$2,125,149,000, \$1,338,004,000 was attributable to fruit and tree nut growers, or 63% of the \$2,125,149,000 amount. At \$558,998,000 (or 26% of the crop total), vegetable and field crop growers were the second largest group of growers whose efforts contributed toward the overall \$2,125,149,000 amount.

Certain types of growers in Ventura County performed better than others over the past 15 years. The \$1,338,004,000 generated by fruit and tree nut growers in 2014 represents an increase of slightly over 100% of the value generated 14 years before in 2000, when these growers grew crops valued at \$651,206,845.

In stark contrast, the value generated in 2014 by vegetable and field crop growers is a 13% improvement over what was generated in 2000, or \$558,998,000 versus \$494,914,343. On an annual basis, the economic value generated by fruit and tree nut growers increased 5.3%, versus the 0.9% annual increase exhibited by field crop and vegetable growers.

In 2014, Ventura County growers harvested 199,256 acres. Excluding pasture lands, growers harvested 102,198 acres. Of this amount, 57,221 acres (56%) was for fruit and tree nuts and 39,773 (39%) for vegetables. Horticultural specialties (nursery and cut flowers) occurred on 4,061 acres and field crop grown on 1,143 acres.

Overall, growers in the county generated \$19,330 per acre. The driving forces behind the county-wide average are fruit and tree nut growers, who generated on average \$23,383 per acre. Moreover, the per-acre average grew annually 5.6%, from \$10,897 in 2000 to \$23,383 in 2014.

TABLE 1:
TRENDS IN FIELD CROPS, VEGETABLES, FRUITS, TREE NUTS, AND HORTICULTURAL SPECIALTIES:
VALUE PER HARVESTED ACRE: VENTURA COUNTY: 2000-2014 (\$2014)

PERIOD	VALUE PER HARVESTED ACRE*	FIELD CROPS AND VEGETABLES (VALUE PER ACRE)	FRUITS AND TREE NUTS (VALUE PER ACRE)	FORESTRY AND PASTURELANDS (VALUE PER ACRE)
2000-2014: change	\$7,771	\$1,099	\$12,486	-\$21
2000-2014 CAGR**	3.7%	0.6%	5.6%	-25.6%
2014	\$19,330	\$13,662	\$23,383	\$0.34
2013	\$18,644	\$14,130	\$21,638	\$0.37
2012	\$18,886	\$12,539	\$23,206	\$13.70
2011	\$19,042	\$14,315	\$22,248	\$12.11
2010	\$18,225	\$14,111	\$20,916	\$13.11
2009	\$16,065	\$14,056	\$17,376	\$17.12
2008	\$14,271	\$11,675	\$15,981	\$18.06
2007	\$14,617	\$12,869	\$15,785	\$12.22
2006	\$15,208	\$13,671	\$16,241	\$11.79
2005	\$13,160	\$12,678	\$13,397	\$10.14
2004	\$14,306	\$12,451	\$15,409	\$15.93
2003	\$12,794	\$11,950	\$13,270	\$13.59
2002	\$12,866	\$11,397	\$13,731	\$13.34
2001	\$11,236	\$11,582	\$11,035	\$14.44
2000	\$11,559	\$12,563	\$10,897	\$21.55

Source: ADE, Inc., based on California Agricultural Commissioners' Reports (2000-2014)

* Note: Value per acre based on combined value of crops, vegetables and fruit and tree nuts divided by combined harvested acreage of crops, vegetables, and fruit and tree nuts. In other words, pastureland, horticulture and cut flowers were not included.

** CAGR = compound annual growth rate.

FOOD PROCESSING OPPORTUNITIES

Based on USDA food consumption standards, it is estimated that residents of Ventura County consume more than 604,000 tons of food per year. Ventura County farmers produced 1.6 million tons of produce in 2014, most of it sold in domestic markets outside the county, as well as exported around the world.

While the Southern California area provides a huge market for local producers, with total demand for 15.7 million tons of food per year, modern food processing and distribution networks span wide geographic areas and are generally not focused on supplying local demand exclusively. However, consumer preferences are increasingly creating premiums for “locally” produced food as concern increases for global warming and the significant energy requirements of transporting food over long distances. In addition, local produce is often associated with higher quality ingredients, particularly for organic products.

TABLE 2:
PROCESSING OPPORTUNITIES FOR THE TOP TEN AGRICULTURAL CROPS IN VENTURA COUNTY

CROP	2014 \$ VOLUME (000)	2013 \$ VOLUME (000)	POTENTIAL PROCESSING OPPORTUNITIES
Strawberries	\$627,964	\$608,765	Stemming, washing, sorting, and packing/packaging; frozen/flash freezing; freeze drying; creation and cooking of jams, jellies, syrups, juices and teas
Lemons	\$269,428	\$188,926	Washing, sorting, packing and packaging; cold-pressed lemon oil and juice extraction; juicing for lemonade or other beverage utilization; further concentration of juice for other food processing uses; freezing; flash freezing; conversion to powder; drying of peel; puree for baked foods, beverages and frozen desserts
Raspberries	\$240,662	\$196,370	Stemming, washing, and sorting; frozen/flash freezing; freeze drying; creation and cooking of jams, jellies, syrups, juices and teas
Nursery	\$180,499	\$190,889	Seedling storage and processing; transfer of seedlings to containers; prepare vegetable plants, tree fruit and other bedding plants for sale
Celery	\$152,153	\$180,864	Washing, sorting, packing, and packaging; fresh-cut and packaging for salads, soups, salsas, stews and other uses; extraction of seeds for oil, flavoring or spice; extraction of seeds for celery salt and seasoning
Avocados	\$127,978	\$209,723	Washing, sorting and packing/packaging; extraction of oil; value added guacamole kit; guacamole; frozen/flash freezing; salsas, jellies, spreads, etc.
Tomatoes	\$72,207	\$75,512	Washing, sorting, packing and packaging; fresh-cut and packaging for salads, soups, salsas, sauces, and other fresh uses; freezing
Peppers	\$67,268	\$52,370	Washing, sorting, packing and packaging; fresh-cut and packaging for salads, soups, salsas, sauces and other fresh uses
Cut Flowers	\$47,615	\$43,079	Sorting, packing and packaging; drying for ornamental use; fresh-cut and packaging for possible edible uses
Kale	\$35,932	\$25,410	Washing, sorting, packing and packaging; fresh-cut and packaging for salads, soups, salsas, sauces, ethnic products, and other fresh uses
Total	\$1,821,706	\$1,771,908	

Source: Ventura County Agricultural Commissioner, The Hatamiya Group.

FOOD PROCESSING OPPORTUNITIES - CONTINUED

While many of the crops are shipped to market for fresh consumption, processing provides opportunities to better manage crop surpluses when they occur, to reduce loss of culls and seconds not suitable for fresh consumption markets and also to generate added value from the crops. These potential benefits help augment the thin financial margins farmers operate within.

Most of the crops grown in Ventura County have potential for value added food processing. Table 2 outlines potential processing opportunities for the 10 largest (dollar volume) crops in Ventura County. While many of the crops are shipped to market for fresh consumption, processing provides opportunities to better manage crop surpluses when they occur, to reduce loss of culls and seconds not suitable for fresh consumption markets and also to generate added value from the crops. These potential benefits help augment the thin financial margins farmers operate within.

Working with industry expert FoodPro International, the ADE team has identified five specific processing facilities that would be feasible in the current Ventura County market (Table 3). These hypothetical facilities, which use a variety of top crops in Ventura County, have been identified for purposes of estimating the economic impact of specialized food processing facilities. The calculations shown in the table are based on one shift per day, five days per week, 52 weeks per year (2,080 hours per year). Therefore, the throughput and revenue could easily be doubled by working two shifts per day.

The first three crops—carrot sticks, celery sticks and possibly sticks from broccoli stems—would be processed in the same plant with 8,000 square feet of space. These would be intended for the fresh consumption market directly through grocery stores. For purposes of this analysis, they are assumed to be run sequentially, rather than at the same time. After initial establishment of this facility, a good expansion would be into the assembly of party trays, which would add much more value. These crops are all about the same price, although the raw material for broccoli stem sticks could be much less expensive if, in fact, it continues to be a product with market appeal.

The next two crops—raspberry and strawberry puree—would serve as intermediate inputs for a number of final products, such as syrup, ice cream and baked goods. They would also be prepared sequentially, but could be marketed in a pack of 50/50 or other combination to meet the needs for specific final products. The natural expansion for this plant would be into the IQF (freezing) production of these two items, which would increase shelf life and serve a wider range of final products.

For this analysis, fresh salsa and fresh guacamole dip are designed to be processed in separate plants. However, it would also be appropriate that they be processed in the same plant with a size of about 16,000 square feet.

**TABLE 3:
POTENTIAL FOOD PROCESSING FACILITIES**

PRODUCT	PRODUCTION RATE (TONS/HR)	ANNUAL PRODUCTION (TONS/YR)	REVENUE (\$/LBS)	ANNUAL REVENUE (\$000'S)	BUILDING SIZE (SQ. FT.)
Vegetable Sticks: Celery, Carrots, Broccoli	Three	6,240	\$0.94	\$11,731	8,000
Fruit Puree: Strawberries, Raspberries	Five	10,400	\$2.90 - \$3.60	\$60,320 - \$74,880	24,000
Fresh Salsa	One	2,080	\$3.80	\$15,808	12,000
Fresh Guacamole Dip	One-half	1,040	\$4.00	\$8,320	6,000
Food Hub	Four	7,787	\$1.17	\$18,257	22,000

Source: FoodPro International, ADE, Inc.

FOOD PROCESSING OPPORTUNITIES - CONTINUED

For Ventura County growers, there is an Excel pro forma model and user manual in the full report. These developmental tools can assist in designing a Food Hub and other processing facilities that would work in Ventura County.

Food Hubs

The Food Hub is designed to do light processing on a variety of crops and is intended to serve as an aggregation hub for small farmers to clean and package their produce for the wholesale market. The processing is limited to washing, cutting and packaging, with one line to quick-freeze produce during peak harvest periods as a way of preserving culls and seconds or other surplus commodities for use as intermediate products for other food processing operations.

The level of operation for the Food Hub indicated in Table 3 reflects a full scale of operation based on a model developed for the Sacramento Area Association of Governments (SACOG).¹ At full development, this facility entails capital costs of about \$6.8 million for land, building and equipment. At this level of operation, the facility can handle at least 20 different crops on the fresh processing lines and would employ 35 full-time equivalent positions, including management and sales staff. The project's development phasing anticipates that the Food Hub would begin operations in an existing leased building with minimal equipment while a new facility is under construction. It would likely take 6-7 years to fully scale up the operation, even if the necessary capital—which includes the construction and equipment cost and operating capital to cover losses in the early years—is readily available.

State-of-the-Art Food Hub Model Applied to Ventura County

The pro forma model has been provided in Excel format to EDC-VC for Ventura County growers and the user manual is provided as an Appendix to our full report. This should be considered a developmental tool to assist in designing a Food Hub and other processing facilities that would work in Ventura County. It provides a baseline structure for the feasibility analysis but much of the data will need to be replaced with locally relevant information, particularly as it relates to the type of building and the nature of the equipment that the Food Hub needs given the crop mix in Ventura County.

ADE and The Hatamiya Group have adapted the SACOG Food Hub pro forma model for Ventura County by adding price data for the top 10 Ventura County crops, using data from the USDA Agricultural Marketing Service for the Oxnard District and the Los Angeles Terminal market. We supplemented this price information with raw farmgate values, as provided by the Ventura County Agricultural Commissioner. The Agricultural Commissioner also provided data on typical harvest periods for these crops in Ventura County (see Table 8 in the full report), which allows the pro forma to model the annual seasonality of raw product for the Food Hub.



FOOD PROCESSING OPPORTUNITIES - CONTINUED

With the variety and quantity of high-quality agricultural crops produced in Ventura County, it is certain that a viable Food Hub can be developed.



The key outcome of the feasibility analysis should be determining the level of operations needed to achieve financial sustainability for the Food Hub. For the SACOG model, the annual cash flow does not turn positive until year 5, with annual gross revenues of \$8.8 million and a production level of more than 4,000 tons per year. In our review of food hub case studies around the nation, many do not scale up to a level that allows the business operation to pay for itself, but rather the food hubs remain dependent on public or nonprofit subsidies, which is not sustainable in the long term.

The critical focus for operating the facility is managing the product mix during the year in a way that maximizes the gross margin between the farmgate value of the commodities paid to the farmers and the market price achieved for the finished goods from institutional buyers or the wholesale marketplace. The aggregate gross margin needs to be sufficient to pay for the variable labor and operating costs, as well as cover fixed costs and debt service on the capital investment in the building and the equipment. In our view, this requires highly skilled operating managers and a strong marketing effort to ensure that a high volume of throughput can be successfully sold to customers.

With the variety and quantity of high-quality agricultural crops produced in Ventura County, it is certain that a viable Food Hub can be developed. However, the scale of operation and market focus of the Hub will depend on the available resources and the interests of the stakeholders involved with the project. The pro forma model described in the full report's Appendix is intended to assist with developing a customized facility that meets the needs of Ventura County and may be adapted as needed to meet that purpose.

Countywide Food Processing Expansion

As noted in the Ventura County Comprehensive Economic Development Strategy, or CEDS, (found at edc-vc.com) agricultural production in Ventura has a relative concentration (location quotient) of 2.49, meaning that it is 2.49 more concentrated in terms of jobs than agriculture in the state economy as a whole.

In contrast, food processing has a concentration of only 0.34, based on an estimated 1,452 jobs in 2013. If food processing were to grow to the same concentration as agriculture, it would have 10,300 jobs, adding nearly 8,850 to the total county job base. Given that much of what is grown in Ventura County is destined for fresh food markets—especially citrus, avocados and berries—it is unlikely there is potential to expand food processing to this extent.

For comparison, the location quotient for the San Joaquin Valley agricultural production is 4.9, but the Valley's food processing concentration is only 3.3. Based on this ratio, a more realistic target for Ventura County might be an LQ of 1.67, adding 5,450 jobs. However, it is recognized that the San Joaquin Valley agricultural economy is much more diverse than the crops grown in Ventura County. Also, given the scale of agriculture in the Central Valley, it is unlikely food processing would develop to a similar level in Ventura County. A likely minimum growth scenario would be to expand food processing to the same level it exists statewide, which would be a 1.0 location quotient, adding 2,680 jobs to the 1,452 existing jobs.

Later in this report, we calculate the direct and indirect employment and economic output that would be generated by each of these facilities, as well as broader countywide scenarios of food processing growth and expansion.

ECONOMIC IMPACT

INTRODUCTION

This section summarizes the potential economic impacts from different processed food production and future job growth scenarios, and how they affect the Ventura County economy. The economic impacts for food processing create jobs and economic activity at the facility sites. However, they also create ancillary economic activity off-site through business-to-business transactions and household spending by employees. For example, in order to operate, a business needs to initiate supplier relationships with other businesses. Suppliers to food processing operations address a wide range of needs such as food products, repair services, accounting services, advertising, office supplies, linens and cleaning supplies. In addition, the workers will create demand for local businesses, such as retail stores, restaurants, health care providers, schools and local service providers.

Impact Definitions

- **Project scenarios** represent potential impacts by individual food processing facilities that would operate in Ventura County. The project scenarios correspond to food production impacts for the following types of food products: vegetable sticks (carrots, celery and broccoli), fruit puree (raspberries and strawberries), fresh salsa, and fresh guacamole. Each of the project scenarios has specific production and revenue projections.
- **Countywide growth scenarios** represent the additional economic activity that will occur from future growth in the Ventura County food processing industry as a whole.

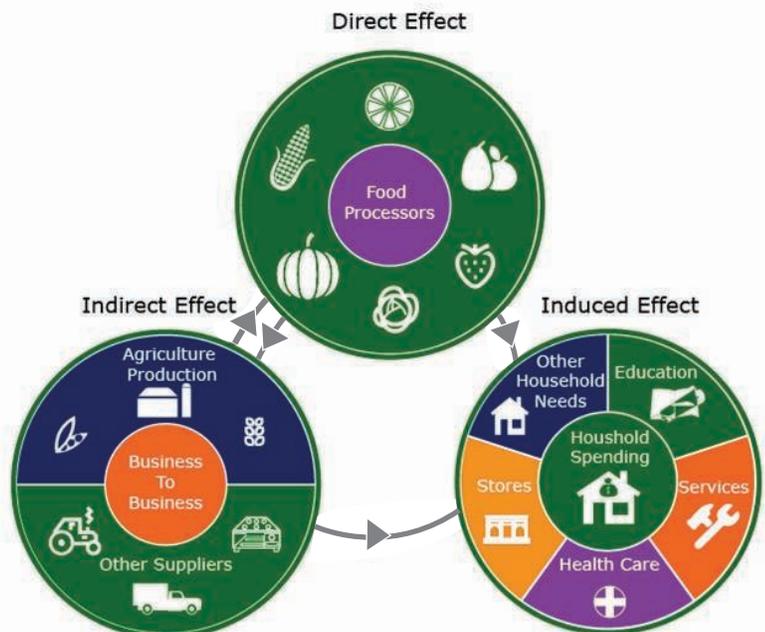
The analysis calculated the multiplier impacts based on three economic measures: employment, industry output and labor income. These measures are defined as follows:

- **Employment** indicates the number of jobs that the individual project and countywide growth scenarios would generate on an annual basis. This employment total includes self-employment as well.
- **Industry output** represents the sum of all economic activity generated by the project and countywide growth scenarios' operational activities. This activity includes all commodity inputs, labor income, property income and other value added components.
- **Value added** represents the sum of all economic activity after subtracting out the value of the commodity inputs. This measure accounts for all overhead, profits and other value that the business operations add. The value added is comparable to the gross domestic product (GDP).
- **Labor income** represents the income generated through both self-employment and wage-and-salary employee compensation.

The multiplier impacts for these measures look at all primary and secondary activity that will result from the project and countywide growth scenarios. These multipliers include the direct, indirect and induced impacts. These multiplier descriptions are summarized below and illustrated in Figure 2.

- **Direct effects** represent the jobs and other economic impacts that are directly generated by food processing facilities on an annual basis.
- **Indirect effects** represent the jobs and other economic effects that will potentially be generated elsewhere in Ventura County as a result of the food processing activities analyzed in the project and countywide growth scenarios. These indirect impacts result from supplier purchases (i.e., business-to-business transactions).
- **Induced effects** represent the economic effects that will be generated through household purchases made in Ventura County as a result of employee spending. These induced impacts most typically occur in retail and other local-serving industry categories such as personal services, education, and health care.

FIGURE 2 — ECONOMIC MULTIPLIER ANALYSIS



ECONOMIC IMPACT - CONTINUED

ECONOMIC IMPACTS FOR SELECTED FOOD PRODUCTION PROJECT SCENARIOS

The full report includes estimates of the economic impacts that would result for individual food processing facilities that correspond to various types of food products. These scenarios are based on specific assumptions regarding the annual production and resultant revenues. They include:

Fresh Vegetable Stick Production

This scenario assumes that the food product will be perishable. This scenario projects an annual volume of 6,240 tons. With an average revenue per pound of \$0.94, the projected revenue comes out to \$11.7 million. The scenario assumes that this production volume will come from an 8,000 square foot facility.

TABLE 4: ECONOMIC IMPACTS OF FRESH VEGETABLE STICK PRODUCTION				
	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	36	32.4	13.6	82
Labor Income	\$1,161,309	\$1,780,772	\$594,943	\$3,537,024
Total Value Added	\$1,597,083	\$2,637,100	\$1,123,815	\$5,357,998
Output	\$11,731,200	\$4,026,389	\$1,808,616	\$17,566,205

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

Puree Production

Puree production includes both raspberries and strawberries. This scenario projects a total annual production of 10,400 tons, with revenues ranging from \$2.90 per pound for strawberries and \$3.60 per pound for raspberries. This scenario assumes that the food product will be preserved either by canning or freezing. Because canning and freezing generally result in differing levels of economic impact, the calculations for this product scenario include the effect from both canned and frozen food production. The scenario assumes that this production volume will come from a 24,000 square foot facility.

TABLE 5: ECONOMIC IMPACTS OF RASPBERRY PUREE PRODUCTION (CANNED PROCESS)				
	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	84	85.9	52.3	222.2
Labor Income	\$6,561,472	\$4,711,747	\$2,280,016	\$13,553,235
Total Value Added	\$8,493,018	\$7,273,838	\$4,306,932	\$20,073,788
Output	\$74,880,001	\$11,187,556	\$6,931,282	\$92,998,839

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

TABLE 6: ECONOMIC IMPACTS OF RASPBERRY PUREE PRODUCTION (FROZEN PROCESS)				
	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	115	134.7	65.9	315.6
Labor Income	\$5,766,286	\$8,441,036	\$2,874,556	\$17,081,878
Total Value Added	\$8,570,488	\$13,488,832	\$5,430,352	\$27,489,672
Output	\$74,880,001	\$20,638,083	\$8,738,933	\$104,257,017

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

ECONOMIC IMPACT - CONTINUED

TABLE 7:
ECONOMIC IMPACTS OF STRAWBERRY PUREE PRODUCTION (CANNED PROCESS)

	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	67	69.2	42.1	178.3
Labor Income	\$5,285,631	\$3,795,575	\$1,836,680	\$10,917,886
Total Value Added	\$6,841,599	\$5,859,481	\$3,469,474	\$16,170,554
Output	\$60,319,998	\$9,012,200	\$5,583,534	\$74,915,732

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

TABLE 8:
ECONOMIC IMPACTS OF STRAWBERRY PUREE PRODUCTION (FROZEN PROCESS)

	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	93	108.5	53.1	254.6
Labor Income	\$4,645,064	\$6,799,723	\$2,315,615	\$13,760,402
Total Value Added	\$6,904,004	\$10,866,003	\$4,374,450	\$22,144,457
Output	\$60,319,998	\$16,625,122	\$7,039,697	\$83,984,817

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

Fresh Salsa Production

The fresh salsa production scenario includes perishable food production for consumer consumption. This scenario projects an annual volume of 2,080 tons. With an average revenue per pound of \$3.80, the projected revenue comes out to \$15.8 million. The scenario assumes that this production volume will come from a 12,000 square foot facility.

TABLE 9:
ECONOMIC IMPACTS OF FRESH SALSA PRODUCTION

	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	49	43.6	18.4	111.0
Labor Income	\$1,564,884	\$2,399,622	\$801,696	\$4,766,202
Total Value Added	\$2,152,098	\$3,553,539	\$1,514,360	\$7,219,997
Output	\$15,808,000	\$5,425,629	\$2,437,142	\$23,670,771

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

ECONOMIC IMPACT - CONTINUED

Fresh Guacamole Production

The fresh guacamole production scenario also includes perishable food production for consumer consumption. This scenario projects an annual volume of 1,040 tons. Based on an average revenue per pound of \$4.00, the projected annual revenue totals \$8.3 million. The scenario assumes that this production volume will come from a 6,000 square foot facility.

**TABLE 10:
ECONOMIC IMPACTS OF FRESH GUACAMOLE PRODUCTION**

	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	26	23.0	9.7	58.7
Labor Income	\$823,623	\$1,262,959	\$421,945	\$2,508,527
Total Value Added	\$1,132,683	\$1,870,284	\$797,032	\$3,799,999
Output	\$8,320,000	\$2,855,595	\$1,282,706	\$12,458,301

Source: ADE, Inc.; data from IMPLAN Pro input-output model.

ECONOMIC IMPACTS OF FOOD PROCESSING JOB GROWTH

In addition to the scenarios for individual food production projects, the economic impact analysis also examined the potential effects from countywide growth in the food production sector as a whole. These scenarios are based on two different employment growth assumptions, and aggregate together all food processing activities in Ventura County.² Because the calculations are based on existing activity, they do not make any assumptions about changes to the future composition of the Ventura County food processing industries.

The full report includes two scenarios, one more aggressive than the other. In this executive summary, we show only the moderate growth scenario, which assumes that future food processing employment will add 2,680 new jobs. This scenario generates about \$117.8 million in labor income and about \$186.4 million in total value added. The indirect effects from business-to-business transactions create another 990.3 jobs and \$62.3 million in labor income, with a total economic impact of about \$163.6 million. The induced effects from increased local demand would result in 837.0 jobs and about \$111.0 million in total industry output.

The multiplied effect from this scenario totals 4,507 jobs, with \$216.6 million in labor income, \$356.7 million in value added and \$1.3 billion in total industry output.

**TABLE 11:
ECONOMIC IMPACTS OF COUNTYWIDE FOOD PROCESSING GROWTH (SCENARIO A)**

	DIRECT EFFECT	INDIRECT EFFECT	INDUCED EFFECT	TOTAL EFFECT
Employment	2,680.0	990.3	837.0	4,507.3
Labor Income	\$117,816,613	\$62,268,436	\$36,520,133	\$216,605,182
Total Value Added	\$186,447,548	\$101,288,247	\$68,985,118	\$356,720,913
Output	\$1,060,581,217	\$163,624,461	\$110,996,714	\$1,335,202,392

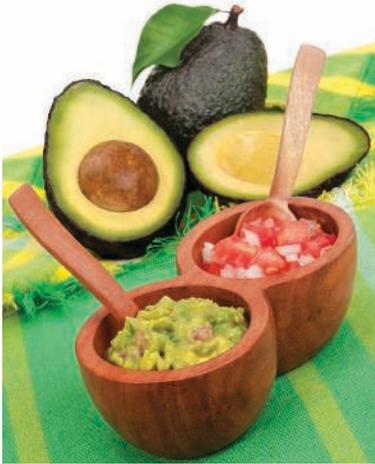
Source: ADE, Inc.; data from IMPLAN Pro input-output model.

² Because of anomalies in the QCEW wage data for the Fruit and Vegetable Preserving and Specialty Food Manufacturing industry category (NAICS code 3114) in Ventura County, the IMPLAN model was modified to more closely approximate the average wages for this industry in California. This affects the countywide growth scenario calculations, because the anomalies in this industry category also skewed the wage levels for the combined food processing sectors.

CONCLUSION

There is substantial market potential to expand food processing in Ventura County, according to our analysis. Many communities throughout the nation are turning their attention to developing locally sourced food systems to improve food security and food quality and reduce the carbon footprint of the food distribution system. Expanding food processing capacity is vital to achieving these goals and would be critical in developing a regional food systems strategy that benefits all stakeholders—growers, workers, supply chain businesses and consumers—and contributes to economic opportunity, social equity and environmental balance.

BENEFITS OF PROCESSING ON FARM LAND



One of the primary benefits of increasing food processing is capturing more value from the product to benefit Ventura County's economy. Based on the Agricultural Commissioner's crop value and acreage data, Ventura County agriculture overall produced \$19,330 in value per acre in 2014. The largest crop production was in fruit and nut trees, which produced \$23,383 per acre, while field crops and vegetables produced \$13,662 per acre. In contrast, food processing in Ventura County creates \$4.7 million in sales per acre, of which about \$835,000 is value added.³ It is important for farmers to be able to capture this value added where opportunities exist, in order to maintain the economic viability of the overall farming operation. Many economic threats exist to farming, such as reduced and more expensive water supplies, increased international competition and crop loss due to agricultural pests.

The Southern California market consumes an estimated 15.7 million tons of food per year, of which about half are fruit and vegetables, the primary products of Ventura County agriculture. However, it can be very difficult for small farm producers to enter the market, given the scale demanded by existing distribution systems. As described above, models exist for food aggregation hubs that would combine output from numerous small farmers and can operate profitably at levels as low as 4,000 tons per year. This model has an expansion capacity up to about 8,000

tons per year in a 25,000 sq. ft. building located on a 1.5 acre site. Several such Food Hubs located in different growing areas of the county could help small producers access market channels currently only available to larger scale operations.

This type of Food Hub, however, would only support limited processing operations, such as chopping, freezing or drying raw produce and packaging the commodities for distribution to wholesale markets and food processors. A number of the food processing opportunities identified in our discussions with Ventura County farmers also include cooking processes, for example berries for pastry manufacturing and chilies and other ingredients for salsa and other marinades and sauces. Currently, these cooking operations and related wastewater treatment facilities are specifically not allowed in county agricultural zones. Yet the ability of small farm producers to utilize seconds and culls for processed food products not only reduces food waste but increases the efficiency of farm operations and adds a revenue stream to supplement the seasonal uncertainties of the fresh produce market, which fluctuates due to climate and pest issues, among other factors. In addition, the county economy benefits from additional jobs, higher incomes and tax revenues.

Even if all the new processing occurred on farmland, which is not anticipated, the trade-off for 450 acres would be \$8.5 million in lost farm production compared to \$375.7 million gained in food processing value added. However, non-agricultural industries produce even higher levels of value added, estimated at about \$206,000 per job, or \$7.2 million per acre. The same 450 acres devoted to other types of industrial businesses would generate as much as \$3.2 billion in value added.

It's expected that there would continue to be a mixture of food processing and other industries in city industrial parks. Understanding that some food processing can be supported on farmland, total economic activity in the county can be expanded with little impact to farm production levels, and be a major improvement to the county's farm viability.

There are many potential benefits to allowing limited food processing on farm lands:

- Diversifies farmers' income stream and captures value added (farming is losing viability otherwise)
- Provides some marginal reduction in truck traffic by the proximity to crops (reducing greenhouse gas emissions)
- Integrates better with farm operations, improving product traceability
- Lower-cost land (operating on urban industrial land may not be economically viable)
- Utilizes land that is marginalized by lack of water, parcel size, urban conflicts
- Reduces impacts to urban areas from odors, noise, truck traffic
- Reduces cost of value added process that would occur elsewhere (e.g. less transportation, etc.)

RECOMMENDATIONS, MITIGATING IMPACTS

Policy makers and other stakeholders have expressed some concerns about allowing additional types of food processing on farm land:

- Reduces prime farm land
- Difficult to limit future uses that may not be ag related
- Requires sewer lines
- May increase nuisance uses in rural areas

We believe it is possible to design a project review and approval system that addresses these concerns:

- Create a more extensive list of allowable operations, that is, allowing cooking processes, farm education and research, and ancillary office space, and set a maximum based on percent of total facility space. Relevant SOAR vote requirements for land use changes would remain in effect.
- Concentrate new processing on more marginal farm land, determined by soil type, proximity to transportation infrastructure, water availability for agricultural production, proximity to urban areas, parcel size and suitability for high-value crop production. County zoning already acknowledges the importance of this type of evaluation and a process exists to review requests for agricultural land use changes with the Agricultural Policy Advisory Committee.
- Require onsite wastewater treatment. Technological solutions to this issue exist and have been proven in Ventura County. (Note: It may be needed to concentrate processing on larger parcels, possibly by locating several processing operations on one site.)⁴

REPORT PREPARATION

CLIENT

ECONOMIC DEVELOPMENT COLLABORATIVE–VENTURA COUNTY

Bruce Stenslie, President/CEO

EDC-VC thanks the Morgan Family Foundation (morganfamilyfoundation.org) for their generous grant contribution supporting this project.

REPORT AUTHORS

APPLIED DEVELOPMENT ECONOMICS

Doug Svensson, AICP, President

Tony Daysog, Senior Associate

Peter Cheng, Senior Associate

Monte White, Production Manager

THE HATAMIYA GROUP

Lon Hatamiya, President/CEO

SPECIAL THANKS

(with apologies to the several more who provided insight and information)

Bonnie Atmore, President/CEO, FOOD Share

Carla Rosin, Ventura County Food Hub

Bill Bartels, Green Source, Inc.

John Schaefer, Monsanto Company

Steve Bennett, Ventura County Supervisor, First District

Christopher M. Smith, PhD., Director, UC Cooperative Extension
–Ventura County

Bill Camarillo, Agromin, Inc.

Sandy Smith, VCEDA

Harold Edwards, President/CEO, Limoneira Company

Christopher Stephens, Director, Ventura County Resource
Management Agency

Chris Massa, Ventura Unified School District

Phillip McGrath, McGrath Family Farm

Edgar Terry, CEO, Terry Berries, Adjunct Faculty Member,
California Lutheran University

Kent Peers, Equity Commercial Brokers

Craig Underwood, Underwood Family Farms

Michael Powers, Ventura County Executive Officer

David Rowlands, City Manager, City of Fillmore

Bill Washburn, FoodPro International

A special thank you to Henry S. Gonzales, Ventura County Agricultural Commissioner, and the Commissioner's office for their support and generous donation of time during this project.

⁴ Examples may be found at toddecological.com. A similar system has been built at the Limoneira facility in Santa Paula.

ECONOMIC DEVELOPMENT COLLABORATIVE- VENTURA COUNTY BOARD OF DIRECTORS

COUNCIL MEMBER AL ADAM

City of Thousand Oaks

GERHARD APFELTHALER

California Lutheran University

SHANNA CANNON

Ventura County Star

KRISTIN DECAS

Oxnard Harbor District/Port of Hueneme

NAN DRAKE

E.J. Harrison Industries

HENRY DUBROFF

Pacific Coast Business Times

HAROLD S. EDWARDS

Limoneira Company

SCOTT EICHER

Chambers of Commerce Alliance

REBEKAH EVANS

Ventura County Lodging Association

BRIAN GABLER

*Economic Development Round Table
Representative City of Simi Valley*

SUPERVISOR KATHY LONG

SECRETARY/TREASURER

County of Ventura

COUNCIL MEMBER KEITH MASHBURN

City of Simi Valley

NANCY MAYERSON

Mayerson Marketing & Public Relations

CHRIS MEISSNER

Meissner Filtration Products, Inc.

COUNCIL MEMBER ROSEANN MIKOS

CHAIR

City of Moorpark

COUNCIL MEMBER MIKE MORGAN

City of Camarillo

SUSAN MULLIGAN

Calleguas Municipal Water District

COUNCIL MEMBER RICK NEAL

City of Fillmore

SUPERVISOR LINDA PARKS

County of Ventura

COUNCIL MEMBER JOHN PROCTER

City of Santa Paula

COUNCIL MEMBER CARMEN RAMIREZ

City of Oxnard

PRESIDENT RICHARD RUSH

California State University Channel Islands

JIM SCANLON

Gallagher SGB-NIA

COUNCIL MEMBER SYLVIA MUÑOZ SCHNOPP

City of Port Hueneme

LAUREL SHOCKLEY

Southern California Edison

TONY SKINNER

I.B.E.W. - Local 952

SANDY SMITH

VCEDA

SIM TANG-PARADIS

City National Bank

COUNCIL MEMBER MIKE TRACY

City of Ventura

MARIA VENTURA

Southern California Gas Company

COUNCIL MEMBER WILLIAM WEIRICK

City of Ojai

HANNAH ZACHARIAH WIRZ

Monsanto

PETER ZIERHUT

Haas Automation, Inc.

NANCY KIERSTYN SCHREINER

LEGAL COUNSEL

Law Offices of Nancy Kierstyn Schreiner

BRUCE STENSLIE

PRESIDENT & CEO

EDC-VC



1601 Carmen Drive, #215 • Camarillo, CA 93010

(805) 384-1800 • Fax: (805) 384-1805 • www.edc-vc.com

Follow us on:  

Cover photo by Jim Bass, bassimages.com